DETAILED ACTION

Information Disclosure Statement

The information disclosure statement submitted on 09/07/2011 has been considered by the Examiner and made of record in the application file.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 09/07/2011 has been entered.

Allowable Subject Matter

Claims 1, 3-9, 11-12, 14-21, 23-28, 41, 46-48, 50, and 58-74 are allowed.

The following is an examiner's statement of reasons for allowance:

Consider **claim 1**, the best prior art of record found during the examination of the present application, **Luschi et al. (U.S. Patent Application Publication # 2003/0045288 A1 herein Luschi)**, fail to specifically teach, suggest, or disclose a method for scheduling mobile station uplink transmissions by a base station comprising steps of: receiving scheduling information from a mobile station, wherein the scheduling information comprises at least one of a queue status and a power status of the mobile station; determining an uplink channel scheduling

assignment for the mobile station using at least one of the scheduling information and a base station interference metric and a link quality corresponding to the mobile station; transmitting the uplink channel scheduling assignment to the mobile station, wherein the uplink channel scheduling assignment comprises a maximum traffic channel to control channel power ratio that the mobile station is allowed to use in a subsequent reverse link transmission; selecting, by the mobile station, transport format and resource-related information (TFRI) for an uplink transmission, wherein the selection is based on the maximum traffic channel to control channel power ratio; and receiving, from the mobile station, an indication of the selected TFRI for an uplink transmission.

Luschi teaches a random access channel communicating quality of service and amount of data to be transmitted, A HS-USCH uplink shared channel scheduler resides at the network, base station, side which requires the uplink signaling of the UE's current buffer status and the UE must then also transmit H-ARQ parameters and current buffer status ([0047]). Furthermore, scheduling of the different users on the downlink shared channel is performed on the basis of the channel conditions and the UE negotiated Quality of Service ([0046]). Therefore claim 1 is considered novel and non-obvious over the prior art and therefore is allowed.

Claims 3-9 and 58 depend upon allowable claim 1, therefore, claims 3-9, and 58 are also allowed for the same reasons explained above in view of Luschi.

Consider **claim 11**, the best prior art of record found during the examination of the present application, **Kadaba et al. (U.S. Patent # 7,158,504)**, fail to specifically teach, suggest, or disclose a method for scheduling a mobile station transmission comprising: scheduling, by a base station of a plurality of base stations, a mobile station of a plurality of mobile stations for a

transmission interval based on scheduling information received from each mobile station of the plurality of mobile stations and further based on a link quality metric; conveying base station interference information to the selected mobile station via a forward link control channel; receiving, by the base station from the scheduled mobile station, a first transmission of data, which transmission of data is conveyed by the mobile station during the transmission interval and comprises transport format and resource-related information (TFRI); decoding the first transmission of the data; when the first transmission of the data is not successfully decoded, receiving, by the base station, communications from the scheduled mobile station corresponding to at least one retransmission of the data; combining, by the base station, each of the at least one retransmission of the data with the previously received data to produce combined data until the first to occur of a successful decoding of the combined data or a flushing of a Hybrid Automatic Repeat Request (H-ARQ) buffer; when one of the first transmission of data and the combined data is successfully decoded, conveying an acknowledgment to the mobile station; and in response to conveying the acknowledgment, flushing the H-ARQ buffer.

Kadaba teaches the wireless unit 150 deems the transmission successful if either base station 152 or 154 ACKs. The wireless unit 150 sends the R-EPFICH and the R-HHCH to flush out the buffer of the base station that was unsuccessful in decoding the previous transmission (column 12 lines 1-13). BS1 is successful in decoding the wireless unit's data burst and sends ACK indicated by arrow 184. BS2 is unsuccessful in decoding the wireless unit's data burst and sends a NACK indicated by arrow 186. The wireless unit 170 acts on the basis of the ACK from BS1. The next transmission of the wireless unit can be scheduled by either BS1 or BS2. The wireless unit 170 sends the R-EPFICH and R-HCCH to flush out BS2's buffer during this

transmission as indicated by arrows 188 and 190 (column 12 lines 32-42). Therefore claim 11 is considered novel and non-obvious over the prior art and therefore is allowed.

Claims 12, 14-21, 23-28 depend on allowable claim 11, therefore these claims are also considered novel and non-obvious over the prior art and are therefore allowed.

Consider **claim 41**, the best prior art of record found during the examination of the present application, **Kadaba et al. (U.S. Patent # 7,158,504)**, fail to specifically teach, suggest, or disclose a method for controlling communications with a mobile station by a base station comprising steps of: storing, by the base station, traffic data from the mobile station in a traffic data buffer; determining a reverse link signal quality metric at the base station, wherein the reverse link signal quality metric comprises a reverse link power control metric; comparing the reverse link power control metric to an inner loop power control setpoint; and when a ratio of the reverse link power control metric to the inner loop power control setpoint exceeds a threshold, flushing the traffic data buffer.

Kadaba teaches as the reverse request update channel reports the current status of the wireless unit's buffer, it alerts the base station to the wireless unit's presence, and triggers subsequent scheduling of the wireless unit by base stations that receive this channel from the wireless unit (column 4 lines 56-67, and column 5 lines 1-17). Reverse pilot reference channel reports the wireless unit pilot strength to the base station to enable the base station to calculate the instantaneous path loss to the wireless unit and hence the ability of the mobile to support different data rates (column 5 lines 18-51). Furthermore, Kadaba teaches to flush out the buffer of the base station that was unsuccessful in decoding the previous transmission (column 12 lines

14-67, and column 13 lines 1-7). These teachings differ from the claimed invention therefore, claim 41 is considered novel and non-obvious over the prior art and therefore is allowed.

Consider **claim 46**, the best prior art of record found during the examination of the present application, **Luschi et al. (US 2003/0045288 A1 herein Luschi)**, fail to specifically teach, suggest, or disclose a method for controlling communications with a mobile station by a base station comprising steps of: determining, by the base station, a link quality metric at the base station; comparing, by the base station, the link quality metric to a threshold; and when the link quality metric compares unfavorably with the threshold, deallocating, by the base station, demodulation resources allocated to a first uplink control channel associated with the mobile station while maintaining allocation of demodulation resources associated with a second uplink control channel that is associated with the mobile station, wherein each of the demodulation resources allocated to a first uplink control channel and the demodulation resources associated with a second uplink control channel demodulation resource comprises a RAKE finger.

Luschi teaches the operation of network-initiated downlink packet transmission is similar to known HSDPA schemes using fast rate selection by Adaptive Modulation and Coding (AMC), and H-ARQ at the MAC layer ([0045]). To enable fast rate selection by AMC, UEs must explicitly report and estimate of the downlink channel quality or the downlink supportable rate ([0054]). For both the uplink and the downlink shared channels, the network determines the required rate of transmission of the feedback measurement report, and communicates this information to the UE ([0055]). Therefore claim 46 is considered novel and non-obvious over the prior art and therefore is allowed.

Claims 47-48 depend upon allowable claim 46, therefore these claims are also considered novel and non-obvious over the prior art and therefore are also allowed.

Consider **claim 50**, the best prior art of record found during the examination of the present application, **Luschi et al. (US 2003/0045288 A1 herein Luschi)**, fail to specifically teach, suggest, or disclose a method for controlling communications with a mobile station by a base station comprising steps of: transmitting, by the base station, first control data to the mobile station on a downlink control channel; upon transmitting the first control data, starting, by the base station, a timer; and when a predetermined period of time expires prior to receiving second control data from the mobile station on an uplink control channel, deallocating, by the base station, demodulation resources allocated to a first uplink control channel associated with the mobile station while maintaining allocation of demodulation resources associated with a second uplink control channel that is associated with the mobile station, wherein each of the demodulation resources allocated to a first uplink control channel and the demodulation resources associated with a second uplink control channel demodulation resource comprises a RAKE finger.

Luschi teaches the operation of network-initiated downlink packet transmission is similar to known HSDPA schemes using fast rate selection by Adaptive Modulation and Coding (AMC), and H-ARQ at the MAC layer ([0045]). To enable fast rate selection by AMC, UEs must explicitly report and estimate of the downlink channel quality or the downlink supportable rate ([0054]). For both the uplink and the downlink shared channels, the network determines the required rate of transmission of the feedback measurement report, and communicates this

information to the UE ([0055]). Therefore claim 50 is considered novel and non-obvious over the prior art and therefore is allowed.

Consider **claim 59**, the best prior art of record found during the examination of the present application, **Luschi et al. (US 2003/0045288 A1 herein Luschi)**, fail to specifically teach, suggest, or disclose a method for scheduling mobile station uplink transmissions by a base station comprising steps of: receiving scheduling information from a mobile station, wherein the scheduling information comprises at least one of a queue status and a power status of the mobile station; determining an uplink channel scheduling assignment for the mobile station using at least one of the scheduling information and a base station interference metric and a link quality corresponding to the selected mobile station; transmitting the uplink channel scheduling assignment to the mobile station, wherein the uplink channel scheduling assignment comprises a maximum traffic channel to control channel power ratio that the mobile station is allowed to use in a subsequent reverse link transmission; and receiving, from the mobile station, a transmission of data, which transmission of data is conveyed by the mobile station during a transmission interval and comprises transport format and resource-related information (TFRI); wherein the scheduling information is received via a first reverse link control channel and the transport format and resource-related information (TFRI) is received via a second reverse link control channel.

Luschi teaches a random access channel communicating quality of service and amount of data to be transmitted, A HS-USCH uplink shared channel scheduler resides at the network, base station, side which requires the uplink signaling of the UE's current buffer status and the UE must then also transmit H-ARQ parameters and current buffer status ([0047]). Furthermore,

scheduling of the different users on the downlink shared channel is performed on the basis of the channel conditions and the UE negotiated Quality of Service ([0046]). Therefore claim 59 is considered novel and non-obvious over the prior art and therefore is allowed.

Consider **claim 60**, the best prior art of record found during the examination of the present application, **Luschi et al. (US 2003/0045288 A1 herein Luschi)**, fail to specifically teach, suggest, or disclose a method for scheduling a mobile station uplink transmission comprising steps of: transmitting scheduling information by the mobile station, wherein the scheduling information comprises at least one of a queue status and a power status of the mobile station; receiving, by the mobile station from a base station, an uplink channel scheduling assignment, wherein the uplink channel scheduling assignment comprises a maximum power margin target; selecting, by the mobile station and based on the maximum power margin target, a modulation and coding scheme for an uplink transmission; and transmitting, by the mobile station, an indication of the selected modulation and coding scheme.

Luschi teaches the operation of network-initiated downlink packet transmission is similar to known HSDPA schemes using fast rate selection by Adaptive Modulation and Coding (AMC), and H-ARQ at the MAC layer ([0045]). To enable fast rate selection by AMC, UEs must explicitly report and estimate of the downlink channel quality or the downlink supportable rate ([0054]). For both the uplink and the downlink shared channels, the network determines the required rate of transmission of the feedback measurement report, and communicates this information to the UE ([0055]). Therefore claim 60 is considered novel and non-obvious over the prior art and therefore is allowed.

Claim 61 depends upon allowable claim 60, therefore, claim 61 is also considered novel and non-obvious over the prior art and therefore is also allowed.

Consider **claim 62**, the best prior art of record found during the examination of the present application, **Luschi et al. (US 2003/0045288 A1 herein Luschi)**, fail to specifically teach, suggest, or disclose a mobile station comprising: means for transmitting scheduling information, wherein the scheduling information comprises at least one of a queue status and a power status of the mobile station; means for receiving, from a base station, an uplink channel scheduling assignment that is based on the scheduling information, wherein the uplink channel scheduling assignment comprises a maximum traffic channel to control channel power ratio; means for selecting a modulation and coding scheme based on the maximum traffic channel to control channel power ratio and for an uplink transmission; and means for transmitting an indication of the selected modulation and coding scheme to the base station.

Luschi teaches the operation of network-initiated downlink packet transmission is similar to known HSDPA schemes using fast rate selection by Adaptive Modulation and Coding (AMC), and H-ARQ at the MAC layer ([0045]). To enable fast rate selection by AMC, UEs must explicitly report and estimate of the downlink channel quality or the downlink supportable rate ([0054]). For both the uplink and the downlink shared channels, the network determines the required rate of transmission of the feedback measurement report, and communicates this information to the UE ([0055]). Therefore claim 62 is considered novel and non-obvious over the prior art and therefore is allowed.

Claim 63 depends upon allowable claim 62, therefore, claim 63 is considered novel and non-obvious over the prior art and therefore is also allowed.

Consider **claim 64**, the best prior art of record found during the examination of the present application, **Luschi et al. (US 2003/0045288 A1 herein Luschi**), fail to specifically teach, suggest, or disclose a method for transmitting data by a mobile station comprising steps of: receiving, at the mobile station, interference information associated with, and conveyed to the mobile station by, a base station; selecting, by the mobile station, a modulation and coding scheme based on the received interference information; transmitting data in a first reverse link channel; and transmitting an indication of the selected modulation and coding scheme in a second reverse link channel, wherein the selected modulation and coding scheme can be used to demodulate and decode the transmitted data.

Luschi teaches the operation of network-initiated downlink packet transmission is similar to known HSDPA schemes using fast rate selection by Adaptive Modulation and Coding (AMC), and H-ARQ at the MAC layer ([0045]). To enable fast rate selection by AMC, UEs must explicitly report and estimate of the downlink channel quality or the downlink supportable rate ([0054]). For both the uplink and the downlink shared channels, the network determines the required rate of transmission of the feedback measurement report, and communicates this information to the UE ([0055]). Therefore claim 62 is considered novel and non-obvious over the prior art and therefore is allowed.

Claims 65-74 depend upon allowable claim 64, therefore, claims 65-74 are considered novel and non-obvious over the prior art and therefore are also allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of References Cited.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April G. Gonzales whose telephone number is 571-270-1101 and whose fax number is 571-270-2101. The examiner can normally be reached on Monday - Friday, 10:00 a.m. - 6:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Temesghen Ghebretinsae can be reached on 571-272-3017. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. If you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/APRIL G GONZALES/
Primary Examiner, Art Unit 2618